

POST-9/11 SECURITY AT NUCLEAR POWER PLANTS

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Nuclear Terrorism

www.nci.org/nuketerror.htm

Nuclear Terrorism --- How To Prevent It

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Preventing Nuclear Terrorism

*The Report and Papers of the International
Task Force on Prevention of Nuclear
Terrorism*

Edited by
Paul Leventhal
Yonah Alexander

A Nuclear Control Institute Book

*in cooperation with the Institute for Studies in International Terrorism,
State University of New York*



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Nuclear Control Institute/State University of New York

International Task Force on Prevention of Nuclear Terrorism

(1986)

Protecting Nuclear Facilities

1. Denial of access to nuclear facilities should be the basic consideration in protecting against sabotage.
2. Thorough vigilance against the insider threat is needed.
3. Guard forces should be thoroughly trained and authorized to use deadly force.
4. The basis used for designing physical protection of nuclear plants should be reviewed to ensure that it accurately reflects the current threat.
5. Power reactors should be protected against vehicular threats.
6. Research reactors should have adequate security provisions against terrorists.
7. Reactor safety designs should be reexamined to protect against an accident caused by terrorists.
8. IAEA physical-protection guidelines should be reviewed and updated.
9. Protection standards should be spelled out unambiguously.

Source: Preventing Nuclear Terrorism 1987 Paul Leventhal and Yonah Alexander, editors

Recommendations

- Upgrade design-basis threat to 9/11-scale attack, including attack from water and air.
- Military protection of nuclear power plants---infantry & anti-aircraft batteries.
- Upgrade truck-bomb rule to defend against larger than largest bomb used since 1993 World Trade Center attack.
- Shut down Indian Point plant to develop & test military protection, and shut down other plants close to population centers if Indian Point defenses not successfully tested.
- Restart shut-down plants only after post-9/11 defenses are demonstrated to be effective.

The “one & only” question:

***Are nuclear power plants
today capable of defeating a
9/11 scale attack---or even the
smaller attacks anticipated
before 9/11?***

Keys to finding the answer

- OSRE results
- Design-basis threat
- Containment design
- Spent fuel vulnerability
- Extent of post-9/11 security upgrades

OSREs

(Operational Safeguards Response Evaluation)

- Suspended after 9/11
- But the “SPA” process (to eventually replace NRC-supervised OSRE exercises with industry self-assessment exercises) has not been terminated.
- Defenses of spent fuel pools at operating & closed sites never tested.
- Operators’ claimed ability to recover from a destroyed target set never tested on simulators.
- OSREs should be promptly resumed & frequently run, with proper logistical precautions in new threat environment.
- SPA should be terminated.

Design Basis Threat

- Assumes smaller number of attackers than seen on 9/11 (either overall or in individual attacks).
- Apparently assumes smaller bomb than ones used since 1993 truck-bomb attack on World Trade Center.
- Does not include assaults from water.
- Does not include attacks from the air.
- Assumes one passive or active insider, but OSREs test only for passive insider.

Design Basis Threat (continued)

Post-9/11 DBT should include:

- At least 19 terrorists attacking from 4 different directions.
- Vehicle bomb bigger than Khobar Towers bomb.
- Active as well as passive insiders.
- Ground, air and water attacks.

Continuing Vulnerabilities of Nuclear Power Plants

- NRC's post-9/11 order appears to leave the DBT unchanged and to make mostly marginal security refinements.
- Operators not required by NRC regulations to protect against an “enemy of the United States, whether a foreign government or other person.”
- But “enemy” is not further defined, and it is arguable whether the 9/11 attacks were by an enemy of the United States as originally conceived by the Commission and in administrative rulings.

Continuing Vulnerabilities ... (continued)

Beyond Perhaps Lacking the Responsibility, Operators Certainly Lack the Capability to Repel a 9/11-Scale Attack.

- Despite NEI propaganda, guard forces at many plants are understaffed, underpaid, undertrained, overweight, demoralized, and scared.
- NRC should develop its own guard-force data base and not rely on NEI's advertisements & guard-force claims.
- NRC should determine whether rent-a-cops, which make up 60% of the guard forces, should be replaced by staff guards receiving pay & benefits in line with comparable plant personnel.

**“Nuclear Power Plant Security – Serious Business,”
Nuclear Energy Institute advertisement, *Washington Times*, March 5, 2002**

“Meet Duane Sims. 16 years as a nuclear security officer. Degree in Criminal Justice. Certified firearms instructor. The security of America’s nuclear power plants begins with the highly committed...highly trained...well-compensated professionals who protect them. Duane Sims has what it takes. 70% of the security professionals who protect America’s nuclear power plants have prior military, law enforcement, or industrial security experience. They are subject to FBI background checks...psychological screening...substance abuse testing...intense employment scrutiny...and physical fitness testing. Their training is intense, exacting, and continuous. They are expert marksmen, annually certified in an array of weaponry. In short, they’re professionals! Nuclear power plant security—it’s serious business.”

Dr. Richard Meserve, NRC Chairman, National Press Club, January 17, 2002

“...we don’t see that there’s a problem today. The private guard forces that we have in place at these facilities are not rent-a-cops. They’re not the kinds of forces that, which we are all familiar, that have existed in the past in airports. These are people who take their job very seriously. They are comparatively well-paid. There is a high retention rate in the industry for these people. They receive training, of course, on the job in order to make sure that they can fulfill their responsibilities, but they also have experience—about two-thirds of them, as I understand, have previously worked in law enforcement, in military security, or in industrial security. So, this is a guard force that is already very experienced and in place. And it’s not a guard force in which we have had the sorts of problems that people have discussed with regard to airport security.”

A Definitive NRC Design Analysis of Containment Vulnerability to Air Attack is Long Overdue.

- Despite NEI propaganda, there is no design basis for industry's declaration of confidence that containments could withstand a jumbo-jet hit.
- Early Argonne study of BWR containments warned that they could be vulnerable to penetration by commercial aircraft.
- NCI calculations show penetration of up to 6 feet of reinforced concrete by jumbo jet engine is plausible.
- NRC should disown NEI's fraudulent claim that the Sandia video of the F-4 crash test into a concrete wall "speaks for itself."

Spent Fuel Pool are the Achilles Heel of Nuclear Power Plants

- NRC study in 2000 on decommissioning plants warned of severe consequences from accidents involving spent fuel pools.
- Certain containments are of special concern.
- Spent-fuel pools contain many times the long-lived radioactive content of reactor cores.

Military Protection is Needed to Repel 9/11-Scale Attack

- At each of the 63 operating sites and 9 decommissioned sites with spent fuel on site, there should be
 - 30 to 40 specially trained infantry troops, plus
 - Radar-directed anti-aircraft batteries
- Federal nuclear guard force, especially one run by the NRC, is not the way to go during the present emergency.
- Gov. Ridge appears to have ruled out military protection as well as national nuclear guard force.
- Ft. Bragg Special Operations Command, not FBI, should be lead agency in evaluating, prescribing and testing protection of nuclear power plants.

Military Protection... (continued)

Indian Point, with 20 Million People Within 50 Miles, Should Be Used as Baseline Plant for Nation

- Shut it down until defenses are upgraded and successfully tested against 9/11-scale attack.
- If successful, restart it and apply lessons learned to other plants.
- If unsuccessful, shut down all plants close to large population centers and don't restart them until defenses are successfully tested against 9/11-scale attack.

**NUCLEAR REGULATORY COMMISSION ACTION
REQUIRING SAFETY INSPECTIONS WHICH RESULTED
IN SHUTDOWN OF CERTAIN NUCLEAR POWERPLANTS**

**JOINT HEARING
BEFORE THE
JOINT COMMITTEE ON ATOMIC ENERGY
CONGRESS OF THE UNITED STATES
AND THE
COMMITTEE ON
GOVERNMENT OPERATIONS
OF THE
UNITED STATES SENATE
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Role of NRC and Industry

- NRC's "top to bottom" review could be "topless to bottomless"--- infinite in duration, indefinite in scope.
- NRC issued first "orders" to industry nearly 6 months after 9/11, and apparently only after strong White House urging.
- NRC supposedly does not rely on prior warning in designing plant defenses, based on its own internal guidance not to do so (Gossick Memorandum), but the NRC acts as if it has all the time in the world and seems to be waiting for an "Osama-gram" before taking decisive action.
- NRC is now perceived as a captured agency: its financing, budgeting, decisionmaking, and commissioner nominations are all controlled by industry.
- Meanwhile, nuclear power plants remain vulnerable today.

GOSSICK MEMORANDUM

(1978)

(excerpt)

Operating Assumption: A prudent, viable safeguards system should not rely for its effectiveness on the accuracy and timely availability of intelligence information concerning the plans, characteristics and intentions of a hostile adversary, with respect to theft or diversion of SNM or sabotage of a nuclear facility. Therefore, safeguards for licensed material and facilities should be structured to prevent theft and sabotage regardless of whether or not such information is known in advance.

Degree of Conservatism: This operating assumption accommodates the conservative perception that, given the manifestation of a significant threat to the nuclear industry, there is a possibility that the U.S. Intelligence Community would not be able to collect and report that information to the NRC in a sufficiently accurate and timely manner so that appropriate safeguards actions might be taken to thwart the threat.

NRC Statement, September 11, 2001

“While there has been no credible general or specific threats to any of these facilities, the recommendation was considered prudent, given the acts of terrorism in New York City and, in Washington, D.C.”